

# Healthy Infrastructure Plan



## Essex County, New York

Project by:  
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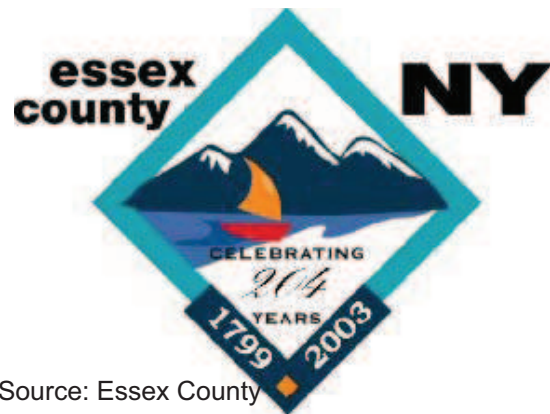
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Source: Essex County

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## I. Introduction

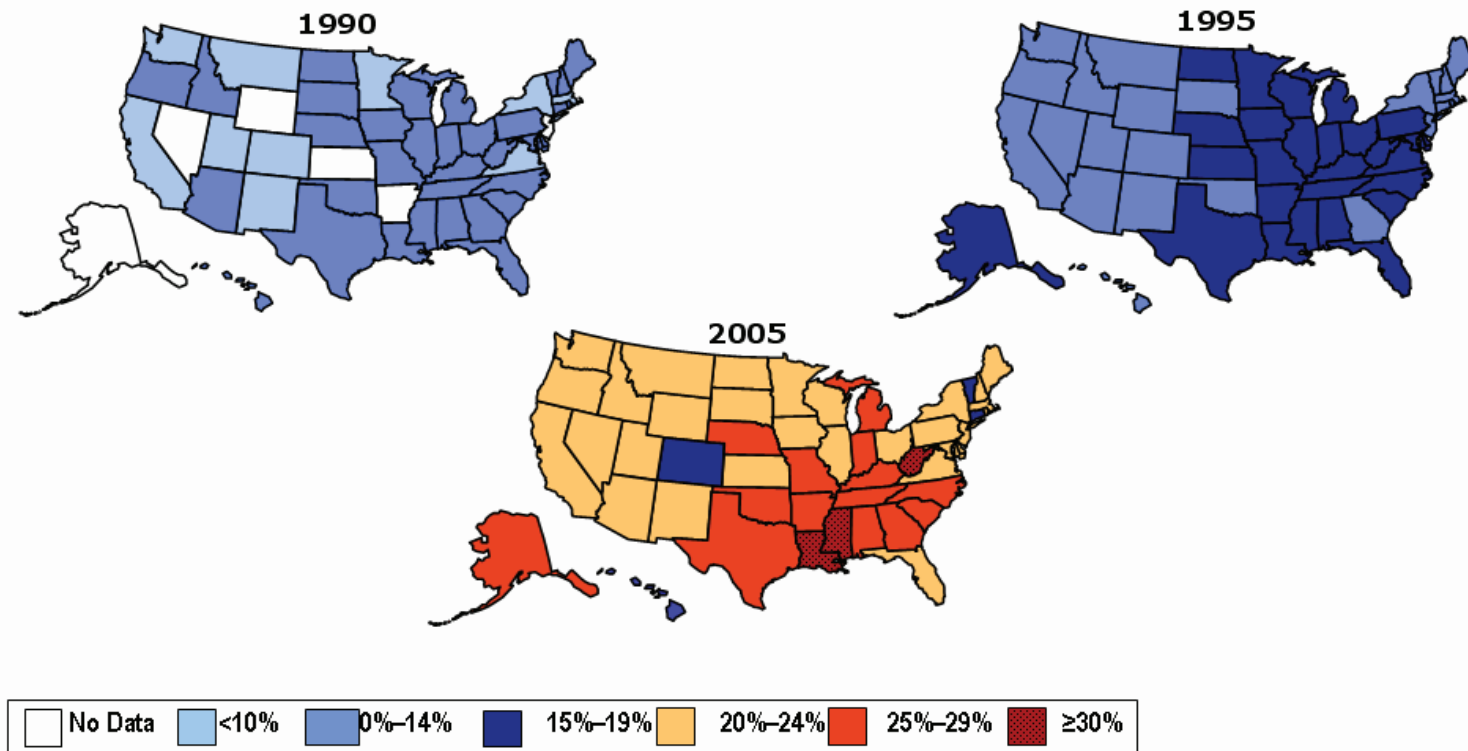
The *Initiative for Healthy Infrastructure* (iHi) project at *University at Albany* (SUNY) is designed to facilitate statewide efforts to create physical environments which fosters healthy active lifestyles. This undertaking includes a cross-disciplinary approach in addressing this issue through teaching, researching, developing policy, public outreach and planning. The primary motivation for this project is in resolving the contradiction between the need for increased physical activity and the deficit in walk-able community infrastructure. Expanding New York State's resource and research base in this area will encourage both more walk-able communities and a healthy population. This project is funded by the *Healthy Heart Program* in the *New York State Department of Health* and is supported by *The Research Foundation of The State University of New York*.

Since one of the goals of the *Healthy Heart Program* is to encourage walking as a routine activity, it is logical to connect this concept with planning, particularly in the development of sidewalks, streets and trails. Unfortunately, community 'health' is not currently considered a performance measure for public works infrastructure, so a new approach that brings together the issue of public health and planning communities is needed. There is increasing evidence that community supports for a heart healthy lifestyle can be effective in reducing the risk of Cardiovascular Disease (CVD). Numerous sources, including the Centers for Disease Control and Prevention, have advocated walking as a primary means of increasing routine physical activity.

The national obesity trend is illustrated in these graphics developed by the Centers for Disease Control and Prevention (CDC). *Source: www.cdc.gov.*

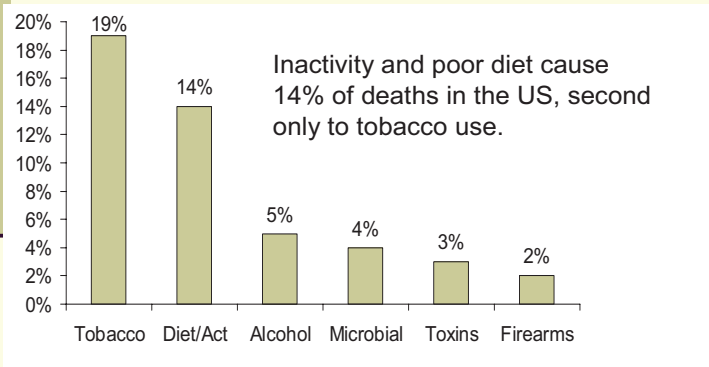
## Obesity Trends\* Among U.S. Adults BRFSS, 1990, 1995, 2005

(\*BMI  $\geq 30$ , or about 30 lbs overweight for 5'4" person)

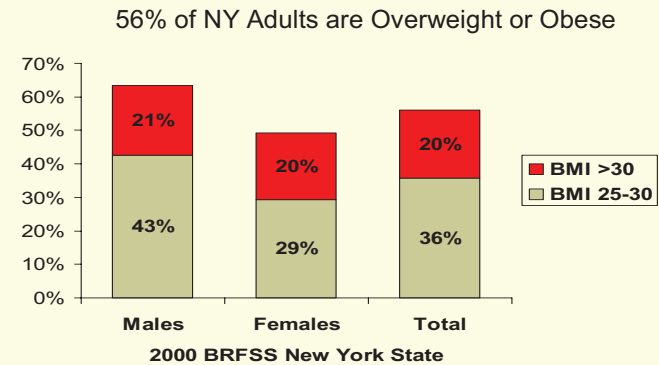


Cardiovascular disease (CVD) is the leading cause of death, disability and health care expenditures among New York State residents. In 1998, more than 70,000 New Yorkers died of cardiovascular disease, accounting for 45% of all deaths. According to data from the 2001 Behavioral Risk Factor Surveillance System, 56% of New Yorkers are insufficiently active (no activity or less than 20 minutes a day, or less than three times/week). At the same time, pedestrians and bicyclists accounted for more than 20% of New York State's traffic fatalities and injuries, 48% of hospitalizations and 59% of injury related hospitalization costs according to data from the Statewide Planning and Research Cooperative System (SPARCS) system. *(Provided by the NYS Department of Health (DOH))* In order to encourage people to walk or bicycle more, it is critical to provide a safe infrastructure that supports an active lifestyle.

### Underlying Causes of Death (US)

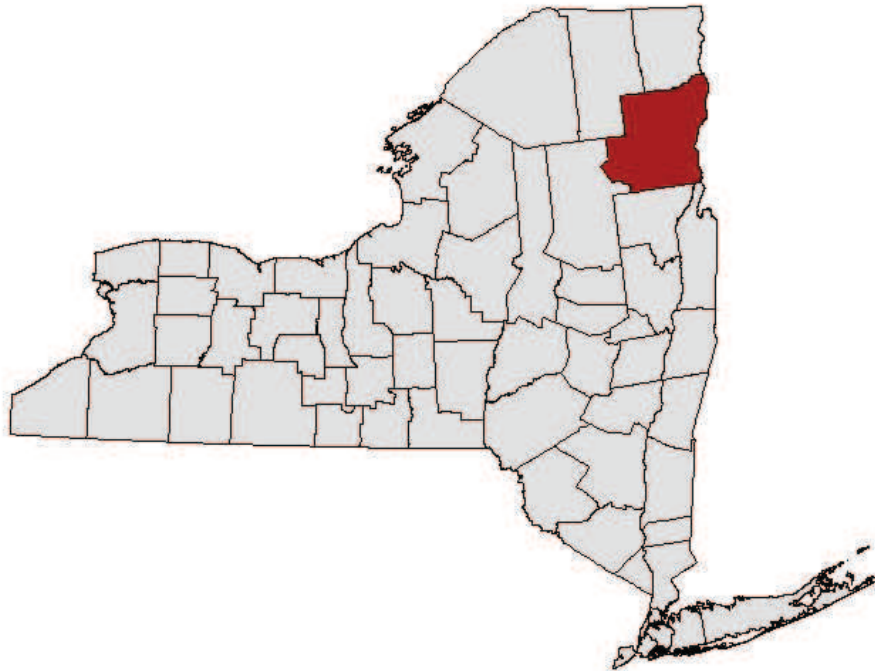


### Overweight and Obesity Among NYS Adults (2001 BRFSS)



The data for the U.S. and New York State indicate that inactivity, poor diet and obesity are serious issues. *Graphics provided by Deb Spicer, NYS Department of Health.*

**Essex County**  
Prepared by iHi, 2006



Essex County is located north of Albany between Lake Champlain and the High Peaks of the Adirondack Mountains.

The county's major population centers include Ticonderoga, Schroon Lake, Moriah, Elizabethtown, Lake Placid and Saranac Lake. The entire county is located within the Adirondack Park, including the State's highest mountain, Mt. Marcy. There is an extensive network of hiking trails and recreational opportunities including water-sports, skiing, bicycling and skating. The U.S. Olympic Center in Lake Placid hosts elite athletes and sporting events, and there is an outdoor-oriented culture in the region.

The population of Essex County is approximately 38,851. The median household income is \$34,823 (1999), with 11.6% of the population living below the poverty line. The county land area covers 1,797 square miles, with a population density of 21.6 people per square mile

*Please note: seasonal and or student population may skew these figures.*

*Source: US Census and Essex County*

## II. Community Health Data

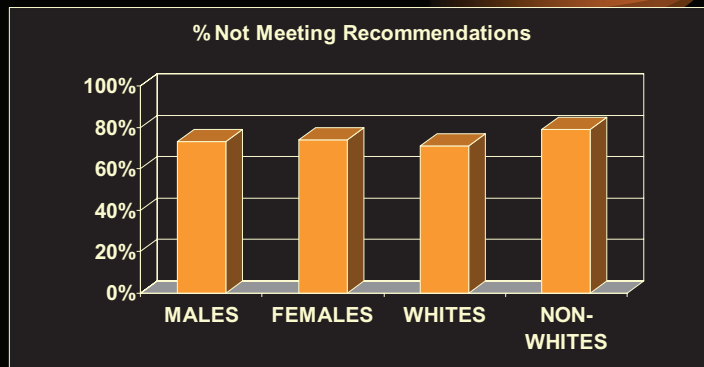
Essex County is fortunate to have a detailed set of data for assessing public health. The New York State Behavioral Risk Factor Surveillance System (data) provides a general overview for statistical comparisons between state, national and county data. The following sections use available local and statewide health data to identify existing conditions and issues for Essex County.

### NYS BRFSS

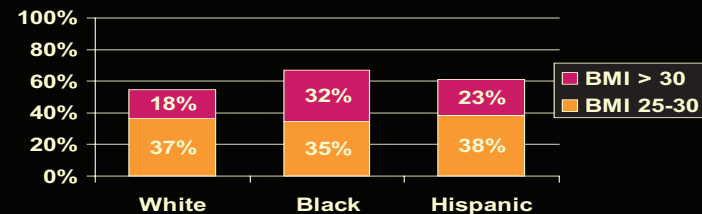
The national trends and data are reflected in the public health data provided by NYS DOH from the 2000 and 2001 BRFSS. The two charts below show levels of physical activity statewide and obesity prevalence in ethnic groups among NYS adults.

The data below indicates that more than 70% of New York State adults (1) do not meet recommended levels of physical activity and (2) that more than 50% of the State's adults are overweight or obese.

### Physical Activity Among NYS Adults, (BRFSS 2000)



### Obesity Among NYS Adults, By Ethnicity 2001, BRFSS



## Mortality data for Essex County

	Population (2000 data)	Total Deaths (per 100,000)	Total Deaths (rate)	Cerebrovascular Disease (#)	Cerebrovascular Disease (rate)	Diseases of the Heart (#)	Diseases of the Heart (rate)
NYS	18,976,457	157,425	829.6	7,935	41.8	57,924	305.2
Essex	38,851	398	1024.4	34	87.5	111	285.7

\*heart disease is a major public health issue, with levels above the statewide level

### Traffic Safety Data

Health and safety are related issues. The amount that people will walk or bicycle is affected by perceived and real concerns about traffic safety. In recent years, Essex County has been subject to considerable development pressure. The built environment that has resulted from these pressures, often presents barriers to active living. In a report entitled, "Essex County Traffic Safety Data", dated February 2004, the Institute for Traffic Safety and Research provides the following summary of Essex County safety Statistics.

*Please see the following page for complete traffic safety data.*

## New York State Department of Motor Vehicles Summary of Motor Vehicle Accidents

### 2004 Essex County

<b>TABLE 1 Accident Summary Totals</b>		
<b>Category Totals</b>	<b>All Accidents</b>	<b>Police Reported</b>
<b>Total Accidents</b>	<b>635</b>	<b>335†</b>
Fatal Accidents	8	8
Non-Fatal Personal Injury Accidents	341	311
Reportable Property Damage Accidents	286	16†
Vehicles	899	475
Drivers Involved	829	456
Vehicle Occupants	1,263	772
<b>Special Accident Series</b>		
Pedestrian/Motor Vehicle Accidents	4	4
Bicycle/Motor Vehicle Accidents	5	5
Motorcycle Accidents	25	23
<b>Fatalities</b>		
<b>Persons Killed (1)</b>	<b>11</b>	<b>11</b>
Drivers Killed	7	7
Passengers Killed	4	4
Pedestrians Killed	0	0
Bicyclists Killed	0	0
Other	0	0
<b>Non-Fatal Injuries</b>		
<b>Persons Injured (1)</b>	<b>516</b>	<b>476</b>
Drivers Injured	326	296
Passengers Injured	180	170
Pedestrians Injured	4	4
Bicyclists Injured	5	5
Other	1	1

† It is important to note that the data for 2004 are not strictly comparable to the data for 2001 and 2002. Changes in data collection and reporting that began during 2001 with respect to property damage crashes have reduced the total number of crashes, since the changes resulted in fewer property damage crashes being captured in the statewide Accident Information System (AIS) maintained by the NYS Department of Motor Vehicles.

(1) Includes pedestrians, bicyclists and all other non-vehicle involved persons as well as vehicle occupants regardless of seating position.

<b>TABLE 2(P) Severity of Accident</b>		
	<b>Number</b>	<b>Percent</b>
<b>Total</b>	<b>335</b>	<b>100.0</b>
Fatal (K) Accidents	8	2.4
Personal Injury Accidents		
Serious (A)	54	16.1
Moderate (B)	85	25.4
Minor (C)	159	47.5
Unknown Severity	13	3.9
Property Damage (O) Accidents	16	4.8

General Notes

- \* Some of the tables are based upon information received from police and motorist reports of motor vehicle accidents. Others are based only on the police reports; these are indicated by a (P).
- \* The Property Damage Accident reporting level is \$1,000 or more.
- \* The term "vehicle" always excludes bicycles.
- \* The term "driver" always excludes bicyclists.
- \* Percentages may not total 100.0 due to rounding.

### III. Infrastructure Diagnosis

For the purposes of this study, the medical term ‘diagnosis’ is applied to the county’s public works infrastructure to investigate possible connections between the built environment and public health. The ‘patient’ in this case is Essex County, and the diagnosis looks at whether current levels of physical activity are related to the provision of built environment features such as rural roadways with paved shoulders, trails, parks and other facilities that encourage a physically active lifestyle. Note that at the county level this is a very general analysis, and precision and scope are limited to an overview of existing conditions. Additional investigations will be necessary to supplement this study with more detailed observation and data at the community and neighborhood level.

### U.S Census Transportation Data

While limited in its ability to capture all travel by walking and bicycling (it focuses only on trips to work, not travel for shopping, school, or leisure), the U.S. Census Transportation data is a useful source of county level data. From 1990-2000, the census shows that walking and bicycling in Essex County DECLINED.

*Please see CTPP data on following page*





## CENSUS TRANSPORTATION PLANNING PACKAGE (CTPP 2000)

**Table 1. Profile of Selected 1990 and 2000 Characteristics**

**Geographic Area: Essex County, New York**

Subject	1990 Census		Census 2000		Change 1990 to 2000	
	Number	Percent	Number	Percent	Number	Percent
<b>POPULATION</b>						
<b>Total population</b> .....	37,152	100.0	38,851	100.0	1,699	4.6
In households .....	34,784	93.6	35,925	92.5	1,141	3.3
In group quarters .....	2,368	6.4	2,926	7.5	558	23.6
<b>HOUSEHOLD SIZE</b>						
<b>Total households</b> .....	13,711	100.0	15,015	100.0	1,304	9.5
1-person household .....	3,451	25.2	4,237	28.2	786	22.8
2-person household .....	4,597	33.5	5,448	36.3	851	18.5
3-person household .....	2,304	16.8	2,189	14.6	-115	-5.0
4-person household .....	2,040	14.9	1,937	12.9	-103	-5.0
5-or-more-person household .....	1,319	9.6	1,204	8.0	-115	-8.7
Mean number of persons per household .....	2.54	(X)	2.39	(X)	-0.14	(X)
<b>VEHICLES AVAILABLE<sup>1</sup></b>						
<b>Total households</b> .....	13,711	100.0	15,015	100.0	1,304	9.5
No vehicle available .....	1,427	10.4	1,114	7.4	-313	-21.9
1 vehicle available .....	5,026	36.7	5,602	37.3	576	11.5
2 vehicles available .....	5,526	40.3	6,203	41.3	677	12.3
3 vehicles available .....	1,306	9.5	1,614	10.7	308	23.6
4 vehicles available .....	309	2.3	367	2.4	58	18.8
5 or more vehicles available .....	117	0.9	115	0.8	-2	-1.7
Mean vehicles per household .....	1.59	(X)	1.66	(X)	0.07	(X)
<b>WORKERS BY SEX<sup>1</sup></b>						
<b>Workers 16 years and over</b> .....	14,877	100.0	16,105	100.0	1,228	8.3
Male .....	8,179	55.0	8,545	53.1	366	4.5
Female .....	6,698	45.0	7,555	46.9	857	12.8
<b>MEANS OF TRANSPORTATION TO WORK</b>						
<b>Workers 16 years and over</b> .....	14,877	100.0	16,104	100.0	1,227	8.2
Drove alone .....	10,636	71.5	12,107	75.2	1,471	13.8
Carpooled .....	2,195	14.8	2,289	14.2	94	4.3
Public transportation (including taxicab) .....	58	0.4	92	0.6	34	58.6
Bicycle or walked .....	1,107	7.4	760	4.7	-347	-31.3
Motorcycle or other means .....	262	1.8	88	0.5	-174	-66.4
Worked at home .....	619	4.2	768	4.8	149	24.1
<b>TRAVEL TIME TO WORK</b>						
<b>Workers who did not work at home</b> .....	14,258	100.0	15,336	100.0	1,078	7.6
Less than 5 minutes .....	1,932	13.6	1,700	11.1	-232	-12.0
5 to 9 minutes .....	3,329	23.3	3,155	20.6	-174	-5.2
10 to 14 minutes .....	2,311	16.2	2,505	16.3	194	8.4
15 to 19 minutes .....	1,647	11.6	1,879	12.3	232	14.1
20 to 29 minutes .....	1,780	12.5	2,053	13.4	273	15.3
30 to 44 minutes .....	2,040	14.3	2,202	14.4	162	7.9
45 or more minutes .....	1,219	8.5	1,842	12.0	623	51.1
Mean travel time to work (minutes) .....	17.1	(X)	20.7	(X)	3.6	(X)
<b>TIME LEAVING HOME TO GO TO WORK</b>						
<b>Workers who did not work at home</b> .....	14,258	100.0	15,336	100.0	1,078	7.6
5:00 a.m. to 6:59 a.m. ....	3,370	23.6	4,001	26.1	631	18.7
7:00 a.m. to 7:59 a.m. ....	4,556	32.0	4,589	29.9	33	0.7
8:00 a.m. to 8:59 a.m. ....	2,731	19.2	2,615	17.1	-116	-4.2
9:00 a.m. to 9:59 a.m. ....	792	5.6	885	5.8	93	11.7
10:00 a.m. to 11:59 a.m. ....	429	3.0	471	3.1	42	9.8
12:00 p.m. to 11:59 p.m. ....	2,123	14.9	2,349	15.3	226	10.6
12:00 a.m. to 4:59 a.m. ....	257	1.8	426	2.8	169	65.8

<sup>1</sup> See the entry for this item in the Technical Notes in the root directory or state subdirectories (filename: tech\_notes.txt).  
 (X) Not applicable.  
 Source: U.S. Census Bureau. Census of Population and Housing, 1990 and 2000 long-form (sample) data.

## **Spatial Analysis using Geographic Information Systems**







Through the use of census data and geocoded locations for specific spatial attributes, it is possible to identify key features within the county. For the purposes of this phase of IHI's project, Healthcare and Education facilities were identified as types of community destinations which can help describe the potential for walking to routine destinations as part of an active lifestyle. The potential of a resident walking to a destination can be identified as accessible within a .5 mile radius. This is the equivalent of approximately a 10 minute walk at an average pace of 3 miles per hour. Note that this distance is also a relatively short bicycle ride – approximately a 3 minute ride at a 10 mile per hour pace. The purpose of this diagnostic tool is not to specifically identify which individuals within the county walk or bicycle, but rather to provide a broad perspective on whether it is possible to walk or bike to certain key features within the area.

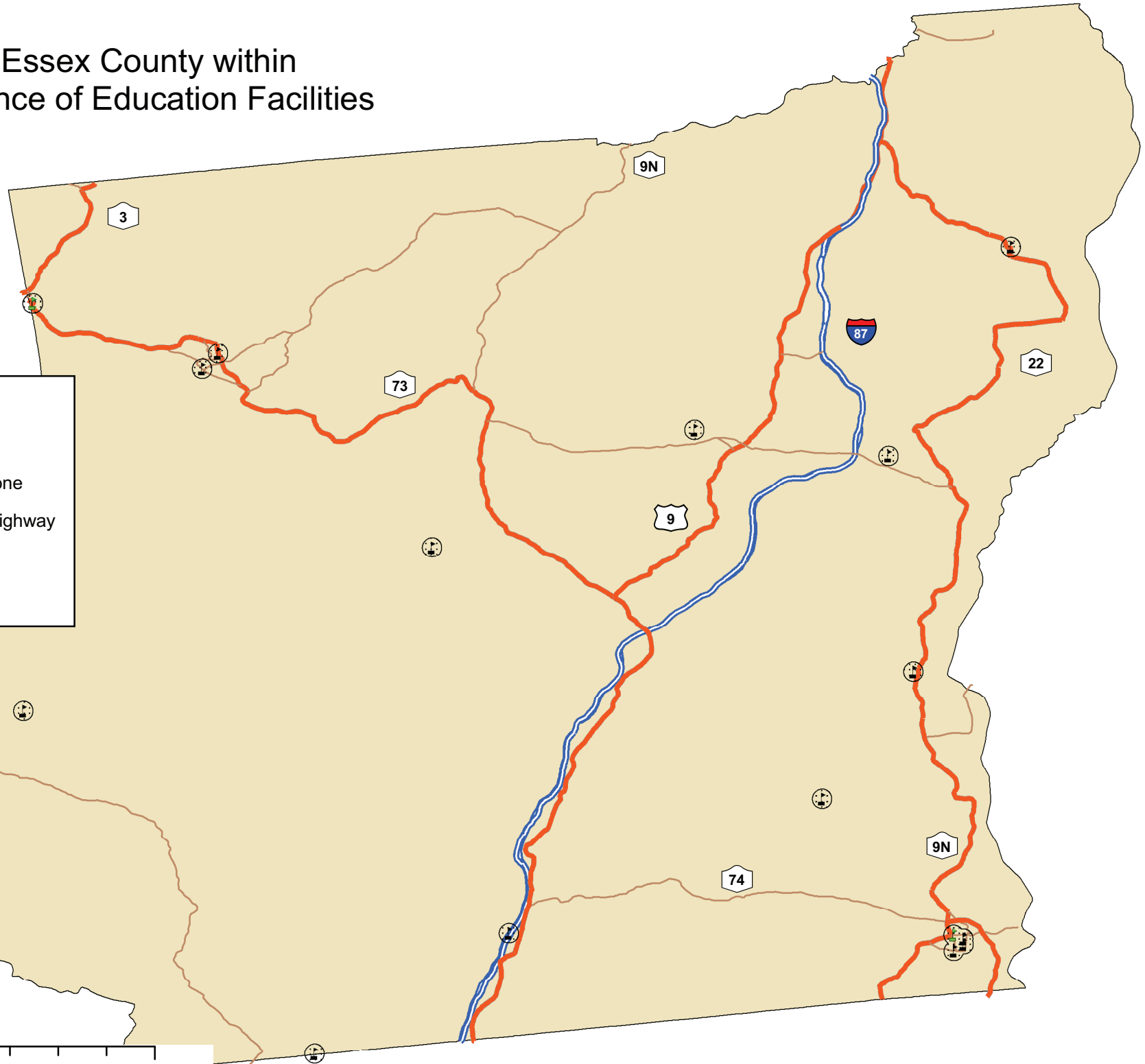
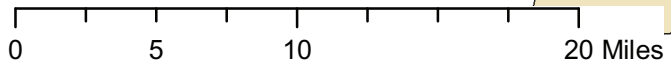
### **Education**

Access to schools is a part of the daily travel routine for Essex County families. Nationally, the trend in the past several decades has been away from children walking or bicycling to school, and towards children being bused and driven to school. The data showing the lack of physical fitness in children (as well as faculty, staff and college students) is related to this change in daily routine. As a result, investigating the potential for schools to be a destination within walking distance of the local population can be an important step towards encouraging a more active lifestyle. About 9,981 people or 25% of the county population lives within walking distance of schools.

*Please see Education map on following page*

# Areas in Essex County within Walking Distance of Education Facilities

-  Colleges
-  Schools
-  1/2 Mile Buffer Zone
-  Limited Access Highway
-  Major Road
-  Minor Road



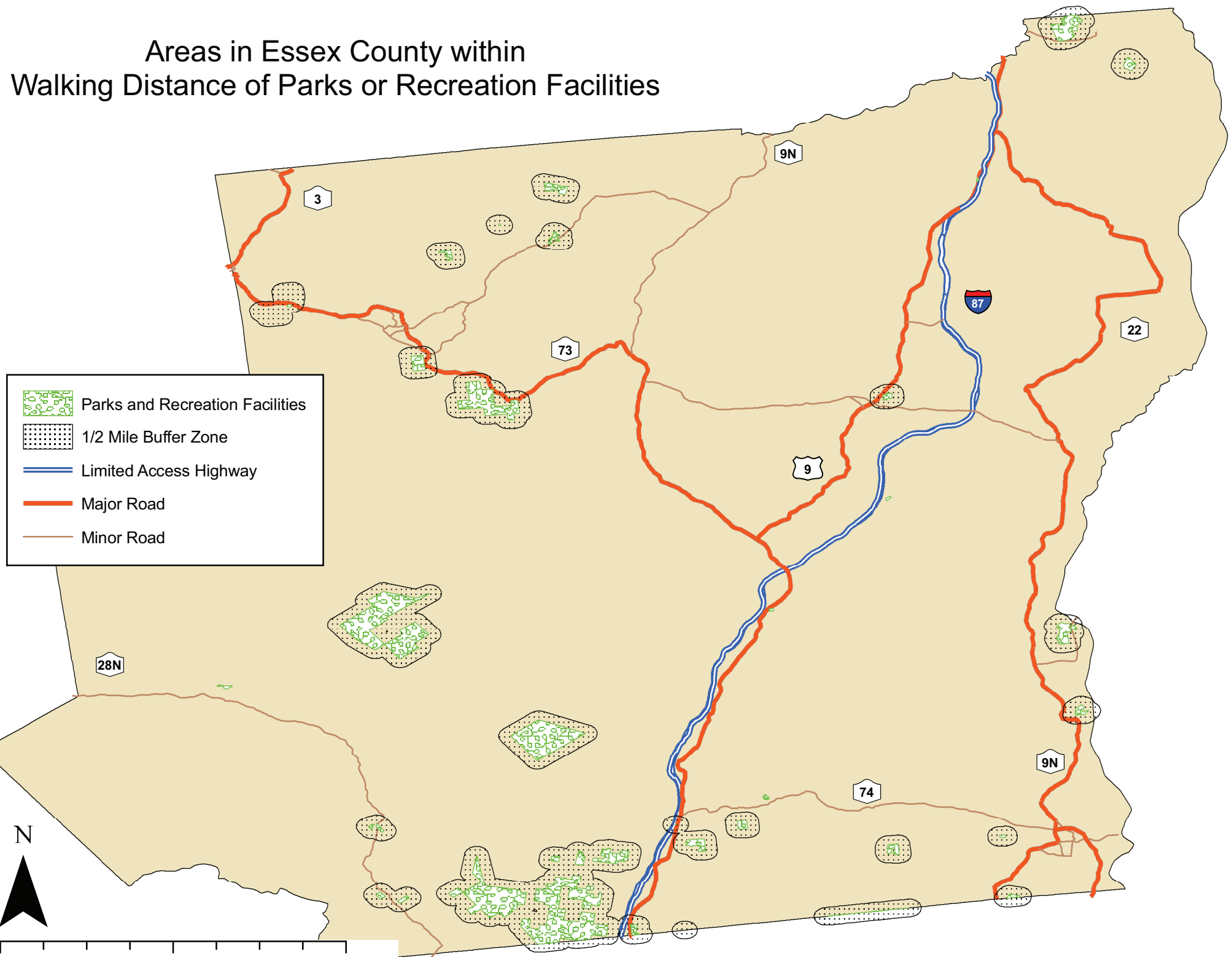
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## **Parks**

Parks and Recreation Facilities provide locations intended for physical activity, sports and other leisure time activities. Walking, hiking and bicycling are primary activities at these locations, yet in a rural setting, it is important to determine if people are able to walk or bike to parks and recreation, or if they are limited to driving a car to reach these destinations. Essex County is fortunate to have a significant amount of parks and public lands focused along lakeshores, rivers, and in local communities. About 34% of the population lives within walking distance to parks.

*Please see Parks map on following page*

# Areas in Essex County within Walking Distance of Parks or Recreation Facilities



-  Parks and Recreation Facilities
-  1/2 Mile Buffer Zone
-  Limited Access Highway
-  Major Road
-  Minor Road

Note: All of Essex County is located within the Adirondack Park







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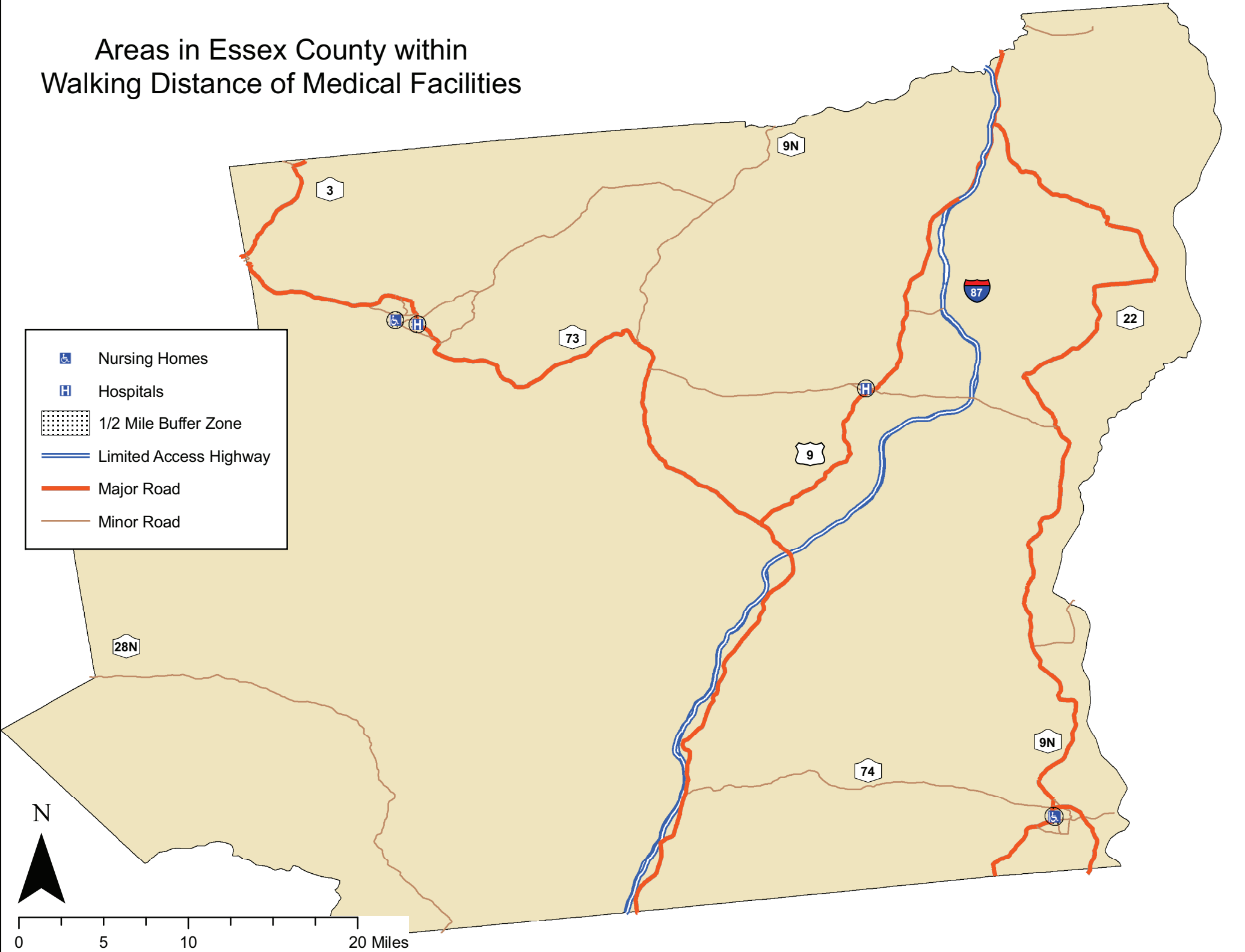
### **Health Institutions**

Just as schools and parks can provide walk-able community destinations, health institutions can play a similar role in being a place that encourages physical activity and fitness by being a role model as a destination. This is often not the case with large hospitals and medical centers, and there are many examples of hospitals being surrounded by large parking lots without appropriate consideration for how walking and bicycling relate to public health and the medical institution's role in creating a healthy neighborhood environment. For the purpose of this analysis, healthcare institutions were identified and geocoded, and the same walking distance buffer was applied for the .5-mile radius around the facility. The data indicates that approximately 11% of the county population lives within walking distance of a healthcare facility.

*Please see Health Institutions map on following page*

# Areas in Essex County within Walking Distance of Medical Facilities

-  Nursing Homes
-  Hospitals
-  1/2 Mile Buffer Zone
-  Limited Access Highway
-  Major Road
-  Minor Road



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**Transportation Infrastructure (following page)**

For many people, local streets and roads define access to jobs, education, healthcare and recreation. The provision of paved shoulders and sidewalks along these facilities is a key to providing a safe environment for pedestrians and bicyclists. Unfortunately however, data is not currently available to determine the percentage of all these roads that include paved shoulders, sidewalks, bike lanes or trails. An investigation of NYSDOT sufficiency file data indicated that paved shoulders and sidewalks are not systematically included in the State's pavement management and information systems.

*The available data table for the Essex County highway system is provided on the following page.*

## ESSEX COUNTY

## REGION 1

## COUNTY 2

MINOR CIVIL DIVISION		GEO- CODE	URBAN AREA CODE	POP. 2000	TOTAL STATE TOURING ROUTE MILEAGE	CENTERLINE HIGHWAY MILEAGE BY JURISDICTION						
TYPE	Name of Town, Village or City					TOWN VILLAGE or CITY	COUNTY	TOTAL LOCAL	D.O.T. OWNED	OTHER STATE	TOTAL STATE & LOCAL	
TOWNS	Chesterfield	0159		1,570	21.4	44.9	19.6	64.5	21.5	0.0	86.0	
	Crown Point	0211		2,120	6.8	53.2	28.6	81.8	10.9	0.2	92.9	
	Elizabethtown	0260		1,320	30.6	24.1	13.9	37.9	30.6	0.0	68.6	
	Essex	0276		710	8.2	26.7	21.2	47.9	8.2	0.0	56.1	
	Jay	0427		2,310	13.8	69.1	19.2	88.3	13.8	0.0	102.0	
	Keene	0434		1,060	26.3	31.3	12.7	44.0	26.3	0.0	70.2	
	Lewis	0461		1,200	24.2	47.7	21.1	68.8	24.2	0.0	93.0	
	Minerva	0537		800	15.5	27.5	23.4	50.9	15.5	0.0	66.4	
	Moriah	0551		3,730	6.6	40.7	35.8	76.5	6.6	0.0	83.1	
	Newcomb	0571		480	11.4	17.6	13.8	31.4	11.4	0.0	42.8	
	North Elba	0594	062P	5,020	21.2	27.0	19.1	46.1	22.7	1.8	70.7	
	North Hudson	0598		270	27.9	8.1	22.7	30.8	28.6	0.0	59.4	
	St Armand	0735	062P	1,010	6.0	9.9	9.9	19.9	6.0	0.0	25.9	
	Schroon	0756		1,760	30.4	63.0	13.5	76.5	30.7	0.0	107.2	
	Ticonderoga	0827		5,170	26.9	46.3	25.0	71.3	26.9	0.1	98.3	
	Westport	0896		1,360	20.0	41.3	19.4	60.7	20.0	0.0	80.7	
	Willsboro	0913		1,900	9.4	34.4	21.9	56.3	9.4	0.0	65.7	
	Wilmington	0914		1,130	16.9	17.4	16.4	33.8	8.8	8.0	50.7	
	<b>SUBTOTAL</b>				<b>32,920</b>	<b>323.3</b>	<b>630.0</b>	<b>357.2</b>	<b>987.1</b>	<b>322.1</b>	<b>10.1</b>	<b>1319.4</b>
	VILLAGES	Keeseville (Partial)	1250		840	0.7	4.4	0.0	4.4	0.7	0.0	5.1
Lake Placid		1257		2,640	2.3	11.7	0.2	11.9	2.3	0.0	14.2	
Port Henry		1404		1,150	2.0	6.4	0.0	6.4	2.0	0.0	8.3	
Saranac Lake (Partial)		1441	062	1,310	2.3	8.5	0.0	8.5	2.3	0.0	10.8	
<b>SUBTOTAL</b>				<b>5,940</b>	<b>7.3</b>	<b>31.0</b>	<b>0.2</b>	<b>31.2</b>	<b>7.3</b>	<b>0.0</b>	<b>38.5</b>	
<b>COUNTY TOTAL</b>		<b>----</b>	<b>----</b>	<b>38,860</b>	<b>330.6</b>	<b>660.9</b>	<b>357.4</b>	<b>1018.3</b>	<b>329.4</b>	<b>10.1</b>	<b>1357.8</b>	

## Infrastructure Investment Analysis

Healthcare is a significant budget expenditure and cost for New York State and local communities. The direct and indirect costs due to medical care, workers compensation claims, and lost time related to injuries is illustrated below in a graphic provided by NYSDOH.

Specifically in Essex County, physical inactivity costs over \$37 Million per year. This includes over \$5,184,942 in medical care costs, over \$100,000 in workers compensation costs, and almost \$32 million in lost productivity. Broken down, it costs each resident of Essex County around \$1,200 per year. It is estimated that a 5% increase in Physical activity would save tax-payers almost \$2 million each year.

Source: [www.activelivingleadership.org](http://www.activelivingleadership.org), figures from US Census

Slide Source (bullets 1 & 2): Chenoweth, "Physical Inactivity in NYS, An Economic Cost Analysis", 1999  
Slide Source (bullet 3): Pratt, M. "Higher Direct Medical Costs Associated with Physical Inactivity", *The Physician and Sports Medicine*, October, 2000. This study used data from the 1987 National Medical Expenditures Survey.

### Cost of Physical Inactivity in NYS

- Inactivity costs NYS **\$3 billion** a year
- A 5% increase in physical activity rates in adults would save NY **\$180 million** a year.
- Inactive adults have **\$330** more per year in direct medical costs than active adults (in 1987 dollars).

#### **IV. Initiatives for Essex County**

Essex County has number of initiatives underway which will provide significant opportunities for active lifestyles, recreation and physical fitness. Since these efforts were not all necessarily created for a public health purpose, they are often not presented in this context. However, taken as a whole, it is possible to envision Essex County as a place where residents, visitors and employees have unique opportunities to enjoy a healthy infrastructure in the future.

A key issue to be addressed is the provision of year-round recreational activities within local communities, so that residents and visitors can walk, bike, ski and skate as part of their daily activities. In Lake Placid, for example, Mirror Lake provides swimming and boating in summer, and the frozen surface is maintained for ice skating, hockey and the famous toboggan slide in winter. In addition, a walking path around the lake is used heavily by both residents and tourists. However, many other communities don't have such direct access to similar activities.

#### **Adirondack Bike Master Plan**

In the early 1990's, when the federal transportation legislation known as ISTEA (the Inter-modal Transportation Efficiency Act) was passed, Congress provided significant new resources for bicycle and pedestrian facilities. In 1993, Adirondack North County Association proposed to the New York State Department of Transportation (NYSDOT) that a bicycle planning effort be developed for the 14 county North Country Region. The resulting *Bicycle Master Plan for the North Country* addresses the needs of both local residents and tourists; and places a special emphasis on linking bicycle tourism to the significant tourism infrastructure already in place throughout the region, most notably the North Country Scenic Byway routes.

#### **Essex County Bicycle Strengths**

Four Adirondack North Country Scenic Byway routes pass through Essex County: the Champlain Trail, Olympic Trail, Lake George-Lake Placid Trail, and the Roosevelt-Marcy Memorial Highway.

Essex County has the diversity of scenery, terrain, and environments that most cyclists are looking for, including numerous lakes and rivers.

Lake Champlain is a main bicycling strength. Views of water are one of the main preferences of bicyclists. Lake Champlain offers that opportunity. In addition, the Lake Champlain Bikeways effort will provide promotional tie-ins to local efforts.

The Champlain Valley Heritage Trail Network is involved in a number of promotional efforts, all offering potential tie-in to bicycle tourism: an interpretive sign program is well underway, a map guide is in production, and a promotional Amtrak schedule is being developed that features activities and points of interest in the county. In addition, agri-tourism promotions are being developed, featuring interpretive tours and lodging at farms in the area.

The potential Canadian connections are a big plus. The area is already a destination for Quebec residents. The appeal of international bicycle trips has great potential.

There are three bicycle shops in Lake Placid, successfully promoting the region to bicyclists.

The Lake Placid Iron man Competition draws competitors to the region several months before in order to train for the event.

The Boquet River Association has published a bicycle trail and auto tour map for a number of years. The map features the area near Essex on Lake Champlain, and is one of the few bicycle touring maps available for any area of the region. Lake Placid is embarking on improving the bicycle and pedestrian use of the popular route around Mirror Lake.

### **The Saranac Lake - Lake Placid Recreational Path**

Route 86 between Lake Placid and Saranac Lake has one of the highest traffic volumes of any road in the Adirondack Park. The steady traffic, high speed limits and narrow shoulders combine to make it a difficult travel route for cyclists. In response, a recreational path linking the two communities was proposed. Planning for the trail was accomplished through a combination of public and private efforts. Currently, however, only a small portion of the trail has been completed in the village of Saranac Lake.

### **Town of Wilmington**

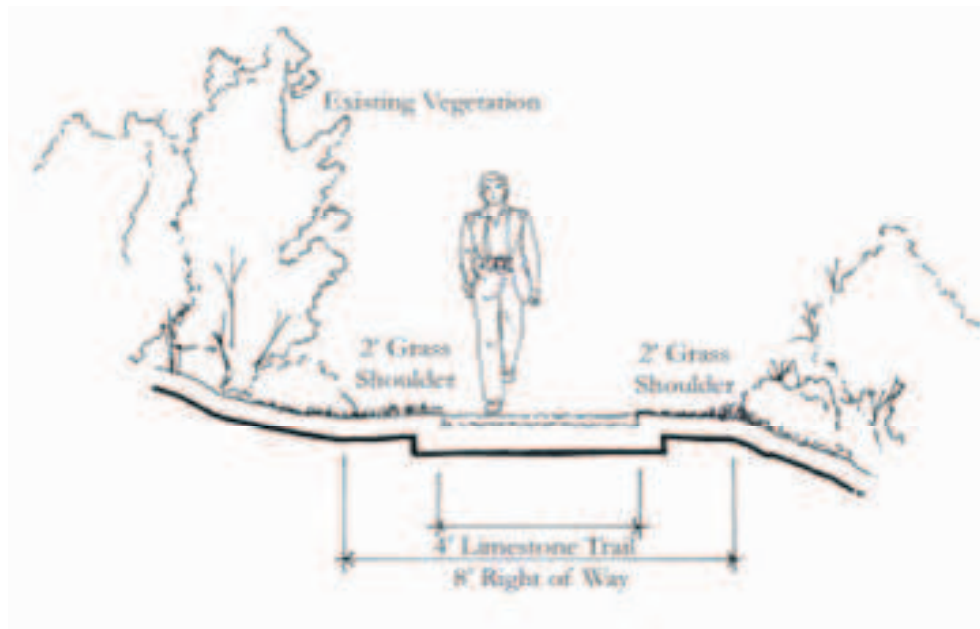
the town of Wilmington is making serious efforts in promoting itself as a mountain biking destination. One project includes the Wilmington Wild Trail System.

### **Whiteface Mountain**

The mountain has an extensive trail network available for use during the summer months. *“Whiteface Mountain offers lift-service Mountain biking via the Cloud Splitter gondola and the High Peaks Mountain Adventure shuttle bus. All runs from the gondola (trails # 23, 24, 26 & 27) are advanced downhill runs. The trails are long and flowing runs, dropping just under 2,500 vertical feet in a steep 2 to 3 miles.”*

## Champlain Valley Heritage Network Walkways Project

Champlain Valley Heritage Network Walkways Project Is an innovative project begun by Lakes to Locks Passage Scenic Byway to create a walking trail system that connects villages, towns, natural, historic, and recreation areas around Lake Champlain. The project's ultimate goal is to establish a network of walking trails that connects the villages and communities on the Vermont and New York shores of Lake Champlain as a way of exploring the Champlain Valley.



### Infrastructure Investment Analysis

To identify the costs of transportation, including public works infrastructure for roads, transit systems and school transportation, a review was conducted of the annual New York State Comptroller's Office 2002 Special Report on Municipal Affairs. This provides data on county and local government spending. The Special Report identifies Health costs as:

*"...total expenditures for county hospitals and nursing homes, public health administration, mental health programs, addiction control services and all other health services provided by the county.*

The report further identifies Transportation as:

*"...expenditures for maintenance and improvement of county roads and bridges, snow removal, landscaping of roads, etc. It also includes expenditures for other transportation related activities (such as airports, bus operations and railroads) and off-street parking.*

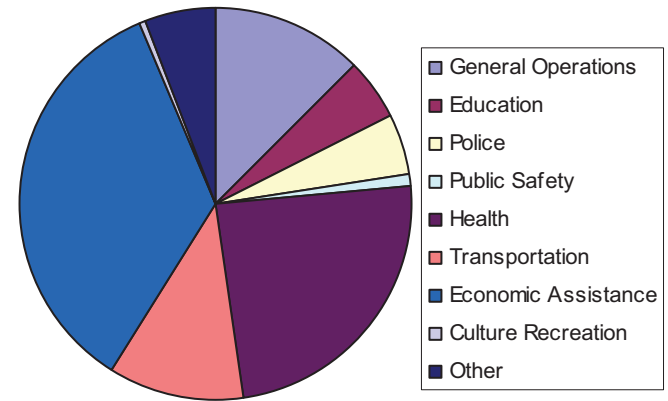
In Essex County, direct health care expenditures totaled more than \$15 million in the year 2002. Transportation expenditures totaled more than \$7 million for the same period. During this period, Education expenditures were \$23 million.

New York State school districts, outside of New York City, spend over \$ 1 Billion transporting students to and from school each year.

Communities in Essex County spend \$539.81 to \$1803 per student each year in transportation costs

**Source: STATE EDUCATION DEPARTMENT SCHOOL DISTRICT TRANSPORTATION COSTS**

### Essex County Expenditures



## V. Community Infrastructure Prescriptions

The information gathered for this project can help in informing Essex County and local communities about the issues and potential solutions related to physical activity, cardiovascular fitness, and the built environment. Data in the previous sections (see NYS BRFSS data) have indicated that Essex County residents are at risk for heart disease, that physical activity is declining, and that transportation and health care costs represent a significant amount of local public expenditures. In order to translate these facts into action, it is first necessary to understand the current recommendations of the health profession in terms of change in individual behavior. Currently the Surgeon General of the United States is recommending that adults have 30 minutes of moderate physical activity on most, if not all days of the week and that children have at least 60 minutes of physical activity on most days, if not all days of the week. In many cases, this amount of physical activity can be achieved while walking to work, school, or for recreation within a local community – if these destinations are accessible in terms of pedestrian facilities. At the same time, research is beginning to show that for many people, leisure time physical activity frequently involves walking, and that roads, streets and sidewalks are important facilities for this purpose.

While it is not certain that there is a direct cause and effect relationship between providing sidewalks, paved shoulders, trails and bicycle facilities and specific improvements in the conditions of cardiovascular disease, there is sufficient evidence to indicate that Essex County would benefit from infrastructure improvements that encourage a more active lifestyle. **The following sections identify several possible policy and funding opportunities for Essex County.**

## Policy Suggestions

### Safe Routes to School

There is a growing national and international movement towards encouraging children to walk and bicycle to school. Schools are a logical focal point for creating safe, healthy, physically active communities. While current conditions indicate the majority of children are being bused and driven to school, changes in the physical environment (including sidewalks, crossings and traffic calming of school zones) can be combined with encouragement programs to facilitate a return to safe routes to school in Essex County. Please see the iHi NY Safe Routes to School document on our website here: <http://www.albany.edu/~ihi/2briefing.pdf>.

### Complete Streets

Benefits of *Complete Streets* range from improved safety conditions for pedestrians and bicyclists to less congested roadways. Numerous communities across the country have already adopted such policies. A proposed *Complete Streets* policy for Essex County can be found here: <http://www.completestreets.org/index.html>.

### Local Sidewalk Program / Winter Maintenance

It is common practice in Upstate New York communities for adjacent property owners to be responsible for construction and maintenance of sidewalks. While this limits a municipality's maintenance cost and shifts the existing or perceived liability to the adjacent landowner, it also creates discontinuous and often nonexistent pedestrian facilities. While there may not be a single, one size fits all solution to these issues, there are a number of excellent best practices which could be facilitated at the county level. Examples include mapping the existing sidewalk systems and identifying missing links. Sidewalk construction could be facilitated into group discount purchases in order to ease the cost burden on property owners. Winter maintenance could be enhanced through economic opportunity programs, providing jobs for the unemployed or youth seeking to enter the workforce.

### Land Use and Walkability

As a 'home rule' state, New York does not have regional land use planning for rural counties, and as a result, most land use decisions are made at the local municipal level. With a dispersed rural population, the creation of compact development centers in villages and hamlets would support walking, especially if combined with locating public facilities such as post offices, libraries and local government offices within town centers. In order to encourage people to walk as part of their daily routing, it is important to group destinations and activities within walking distance of businesses and residences to the greatest extent possible.

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### **Road Shoulder Guidelines**

Many of the County's highways are low volume two lane roads. In most cases where there are few motor vehicles and traffic speeds are kept slow, these are already good places to walk or bicycle. On roads with higher traffic volumes and speeds, providing paved shoulders can be a significant benefit to motorists, bicyclists and pedestrians. A consistent policy for providing paved shoulders as a typical roadway feature could be implemented by NYSDOT, the County and municipal agencies. The document on the following page, developed in Oregon, provides an excellent rationale for these facilities.

# Paved Shoulders

## Reasons for Highway Shoulders

*Prepared by Michael Ronkin, Bicycle and Pedestrian Program Manager & Members of the Preliminary Design Unit Oregon Department of Transportation*

Before the 1971 "Bike Bill" was passed, and the terms "shoulder bikeways" or "bike lanes" were commonly used, the Oregon Highway Division advocated (1) building paved shoulders when constructing roads and (2) adding paved shoulders to existing roads. These were often referred to as "safety shoulders." There are good reasons for this term.

The following reasons are what AASHTO has to say about the benefits of shoulders in three important areas: safety, capacity and maintenance. Most of these benefits apply to both shoulders on rural highways and to marked, on-street bike lanes on urban roadways. See other side for other benefits specific to urban areas.

**Safety** - highways with paved shoulders have lower accident rates, as paved shoulders:

- Provide space to make evasive maneuvers;
- Accommodate driver error;
- Add a recovery area to regain control of a vehicle, as well as lateral clearance to roadside objects such as guardrail, signs and poles (highways require a "clear zone," and paved shoulders give the best recoverable surface);
- Provide space for disabled vehicles to stop or drive slowly;
- Provide increased sight distance for through vehicles and for vehicles entering the roadway (rural: in cut sections or brushy areas; urban: in areas with many sight obstructions);
- Contribute to driving ease and reduced driver strain;
- Reduce passing conflicts between motor vehicles and bicyclists and pedestrians;
- Make the crossing pedestrian more visible to motorists; and
- Provide for storm water discharge farther from the travel lanes, reducing hydroplaning, splash and spray to following vehicles, pedestrians and bicyclists.

**Capacity** - highways with paved shoulders can carry more traffic, as paved shoulders:

- Provide more intersection and safe stopping sight distance;
- Allow for easier exiting from travel lanes to side streets and roads (also a safety benefit);
- Provide greater effective turning radius for trucks;
- Provide space for off-tracking of truck's rear wheels in curved sections;
- Provide space for disabled vehicles, mail delivery and bus stops; and
- Provide space for bicyclists to ride at their own pace;

**Maintenance** - highways with paved shoulders are easier to maintain, as paved shoulders:

- Provide structural support to the pavement;
- Discharge water further from the travel lanes, reducing the undermining of the base and subgrade;
- Provide space for maintenance operations and snow storage;
- Provide space for portable maintenance signs;
- Facilitate painting of fog lines.



## **VI. Funding Options**

Bicycle and Pedestrian Improvements can be made possible in Essex County with funding through multiple avenues. There are numerous funding sources, including federal grant programs such as the Transportation Improvements Program or Congestion Mitigation Air Quality Improvement Program. Both the New York Bicycling Coalition and Parks and Trails New York (PTNY) have excellent information regarding funding.

New York Bicycling Coalition: <http://www.nybc.net/programs/funding.shtml>

Parks and Trails New York: <http://www.ptny.org/index.shtml>

There may also be state, local and private money available too. In addition, see the iHi website for more information on funding sources.

## **Conclusion**

This report is part of our efforts to develop an approach for identifying connections between public health, transportation infrastructure and community decision-making. With that caveat in mind, the following discussion can provide some useful concepts both for Essex County and for the future development of the iHi program. One way of summarizing the data collected for this document is to connect the physical activity and transportation needs of Essex County with an image common to promoting healthy lifestyles – the food pyramid. While people may disagree on the exact proportions of carbohydrates and protein in a healthy diet, the concept of the food pyramid is that the most resource intensive food group – meat – should be eaten in moderation, and that the food group which can be produced with the least amount of energy and the greatest return to the population – grains – should form the basis of a healthy diet. The same principle can be applied to transportation. If we used the forms of transportation that consume the greatest amount of resources (petroleum), we would place automobiles and air travel at the top of the pyramid and attempt to conserve our use of these costly forms of travel. Walking and bicycling would form the foundation of a pyramid that is based on the principals of a healthy transportation diet.

## **Do you know how much your local school district spends on student transportation?**

Many districts allocate more funding on transportation than on physical activity programming! See the NYS Comptroller's Report and select school districts: [http://www.osc.state.ny.us/localgov/datanstat/findata/index\\_choice.htm](http://www.osc.state.ny.us/localgov/datanstat/findata/index_choice.htm)

Essex County is faced with some important choices for the future. With a population at risk for cardiovascular disease, and with a significant percentage of county tax revenues being used for both transportation and health care, there is a need and an opportunity to increase the community's investment in healthy infrastructure. Projects such as Heritage Trail and Quality Communities initiative are all part of the solution. Bringing these initiatives together under the umbrella of combining public health and public works will create new opportunities for Essex County, its residents, businesses and visitors.

The 'Transportation Food Pyramid' (Olson, 2003) shows the relationship between a healthy diet and a healthy use of transportation resources.

*The 'Transportation Food Pyramid' (Olson, 2003) shows the relationship between a healthy diet and a healthy use of transportation resources.*

*Please Note: The USDA now has a tool online so individuals can customize their own pyramids. Go to: <http://www.mypyramid.gov/>*

**Additional Important Link**

NYS DOH: <http://www.health.state.ny.us/>

## The Transportation "Food Pyramid"

AIR	Fats, Oils & Sweets USE SPARINGLY
CAR	Milk, Yogurt, & Cheese Group 2-3 SERVINGS
BUS/RAIL	Meat, Poultry, Fish, Dry Beans, Eggs, & Nuts Group 2-3 SERVINGS
WALK/BIKE	Vegetable Group 3-5 SERVINGS
	Fruit Group 2-4 SERVINGS
	Bread, Cereal, Rice, & Pasta Group 6-11 SERVINGS

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For additional information, please contact:

Initiative for Healthy Infrastructure – iHi  
State University of New York at Albany  
Department of Geography and Planning  
[www.albany.edu/gp/ihi](http://www.albany.edu/gp/ihi)



# Healthy Infrastructure Action Plan / Survey

Thank you for being part of our efforts to connect public health, infrastructure and your community. We'd appreciate it if you would spend a few moments providing us with your opinion on this project.

County Name: .....

1. On a 1 to 10 scale, with '10' being the best score, is this document useful for your community?  
(please circle your response)

No 1 2 3 4 5 6 7 8 9 10 Yes

2. On the same 1-10 scale, are you more aware of the connection between public health and infrastructure now that you have read this document?  
(please circle your response)

No 1 2 3 4 5 6 7 8 9 10 Yes

3. Will you personally become and advocate for healthy infrastructure in your community as a result of this plan? (please check  one)

Yes  No  Not Sure

4. What plans, programs or projects should be added to the plan?

.....  
.....  
.....

5. What actions will your community implement as a result of this plan? (check  all that apply)

- Formal adoption of the plan by elected officials
- Increased funding for healthy infrastructure projects
- Formation of a healthy infrastructure task force
- Safe Routes to Schools Program
- New Policy to Include Pedestrian and Bicyclist Facilities



# Healthy Infrastructure Action Plan / Survey

County Name: .....

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6. Completion of a specific project.

**Project name:** .....

7. Other. *Please describe:*

.....  
.....  
.....  
.....

Would you like to receive more information about iHi?  
Please provide us with your contact information:

Name.....

Organization.....

Address.....

Phone.....

Fax.....

Email.....

**Please send your response to:**

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